

This listing of the claims replaces any and all prior versions and listings of claims in the application:

LISTING OF THE CLAIMS

1. (original) A composition comprising a biologically active compound and a transport moiety, wherein the transport moiety comprises a structure selected from the group consisting of $(XYZ)_nZ$, $(ZY)_nZ$, $(ZYY)_nZ$ and $(ZYYY)_nZ$, wherein each Z is L-arginine or D-arginine, and each Y is independently an amino acid that does not comprise an amidino or guanidino moiety, and wherein n is an integer of from 2 to 10.
2. (original) The composition according to claim 1, wherein each Y is independently selected from the group consisting of alanine, cysteine, aspartic acid, glutamic acid, phenylalanine, glycine, histidine, isoleucine, lysine, leucine, methionine, asparagine, proline, glutamine, serine, threonine, valine, tryptophan, hydroxyproline, tyrosine, γ -amino butyric acid, β -alanine, sarcosine and ϵ -amino caproic acid.
3. (original) The composition according to claim 1, wherein the transport moiety comprises the structure $(XYZ)_nZ$, and wherein n is an integer ranging from 2 to 5.
4. (original) The composition according to claim 1, wherein the transport moiety comprises the structure $(ZY)_nZ$, and wherein n is an integer ranging from 4 to 10.
5. (original) The composition according to claim 1, wherein the transport moiety comprises the structure $(ZYY)_nZ$, and wherein n is an integer ranging from 4 to 10.
6. (original) The composition according to claim 1, wherein the transport moiety comprises the structure $(ZYYY)_nZ$, and wherein n is an integer ranging from 4 to 10.
7. (original) The composition according to claim 1, wherein the transport moiety is attached to the biologically active compound by a linking moiety to form a conjugate.

8. (original) The composition according to claim 1, wherein Y is a gene-encoded amino acid.

9. (original) The composition according to claim 1, wherein Y is an amino acid other than a gene-encoded amino acid.

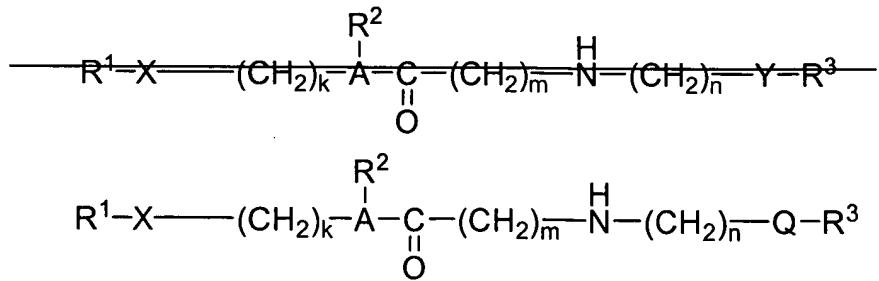
10. (original) The composition according to claim 3, wherein each Y is independently selected from the group consisting of glycine, γ -amino butyric acid, β -alanine and ϵ -amino caproic acid, and n is 3 or 4.

11. (original) The composition according to claim 4, wherein each Y is independently selected from the group consisting of glycine, γ -amino butyric acid, β -alanine and ϵ -amino caproic acid, and n is 6, 7 or 8.

12. (original) The composition according to claim 5, wherein each Y is independently selected from the group consisting of glycine, γ -amino butyric acid, β -alanine and ϵ -amino caproic acid, and n is 6, 7 or 8.

13. (currently amended) The composition according to claim 6, wherein each Y is independently selected from the group consisting of glycine, γ -amino butyric acid, β -alanine and ϵ -amino caproic acid, and n is 6, 7 or 8[.]

14. (currently amended) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

A is N or CH;

R² is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

R³ is [[a]]the transport moiety;

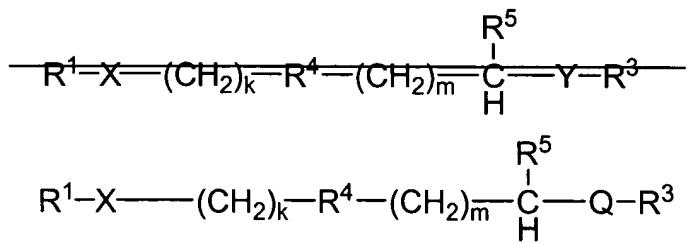
k and m are independently either 1 or 2; and

n is an integer of from 1 to 10.

15. (currently amended) The composition according to claim 14, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO₂NH-, -SONH-, phosphate, phosphonate and phosphinate.

16. (currently amended) The composition according to claim 14, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

17. (currently amended) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

R³ is [[a]]the transport moiety;

R⁴ is S, O, NR⁶ or CR⁷R⁸;

R⁵ is OH, SH or NHR⁶, NHR⁶, or -CONH₂;

R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

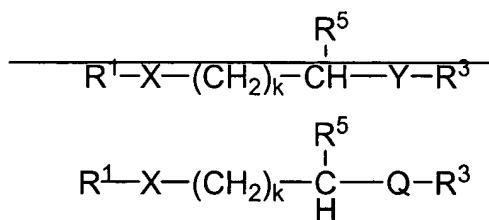
R⁷ and R⁸ are independently hydrogen, alkyl or arylalkyl; and

k and m are independently either 1 or 2.

18. (currently amended) The composition according to claim 17 wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO₂NH-, -SONH-, phosphate, phosphonate and phosphinate.

19. (currently amended) The composition according to claim 17, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

20. (currently amended) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

R³ is the transport moiety;

R⁵ is H, OH, SH or NHR⁶, NHR⁶, or -CONH₂;

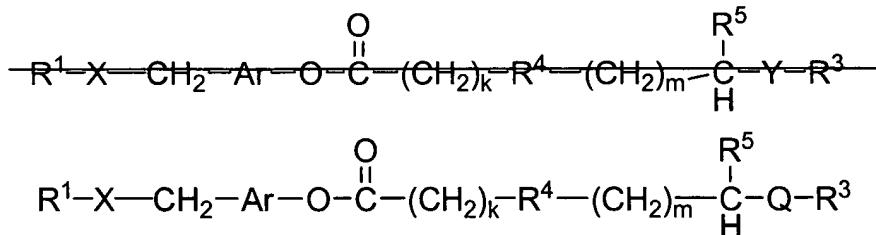
R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl; and

k is 1 or 2.

21. (currently amended) The composition according to claim 20, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO₂NH-, -SONH-, phosphate, phosphonate and phosphinate.

22. (currently amended) The composition according to claim 20, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

23. (currently amended) The composition according to claim 7, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

Ar is a substituted or unsubstituted aryl group, wherein the methylene and oxygen substituents are either *ortho* or *para* to one another;

R³ is the transport moiety;
R⁴ is S, O, NR⁶ or CR⁷R⁸;
R⁵ is H, OH, SH, CONHR⁶ or NHR⁶;
R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;
R⁷ and R⁸ are independently hydrogen or alkyl; and,
k and m are independently either 1 or 2.

24. (currently amended) The composition according to claim 23, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH-, -S-S-, -C(S)O-, -C(S)NH-, -NHC(O)NH-, -SO₂NH-, -SONH-, phosphate, phosphonate and phosphinate.

25. (currently amended) The composition according to claim 23, wherein each of X and YQ is independently selected from the group consisting of -C(O)O-, -O-C(O)-, -C(O)NH-, -NH-C(O)-, -OC(O)NH- and -NHC(O)NH-.

26. (currently amended) The composition according to claim 4216, wherein A is N, R² is benzyl, k, m and n are 1, and X is [[-C(O)O-]]-OC(O)-.

27. (currently amended) The composition according to claim 4319, wherein R⁴ is S, R⁵ is NHR⁶, R⁶ is hydrogen, methyl, allyl, butyl or phenyl, k and m are 1 and X is [[-C(O)O-]]-OC(O)-.

28. (currently amended) The composition according to claim 4422, wherein R⁵ is NHR⁶, R⁶ is hydrogen, methyl, allyl, butyl or phenyl, k is 2 and X is [[-C(O)O-]]-OC(O)-.

29. (currently amended) The composition according to claim 4525, wherein Ar is an unsubstituted aryl group, R⁴ is S, R⁵ is NHR⁶, R⁶ is hydrogen, methyl, allyl, butyl or phenyl, k and m are 1 and X is [[-C(O)O-]]-OC(O)-.

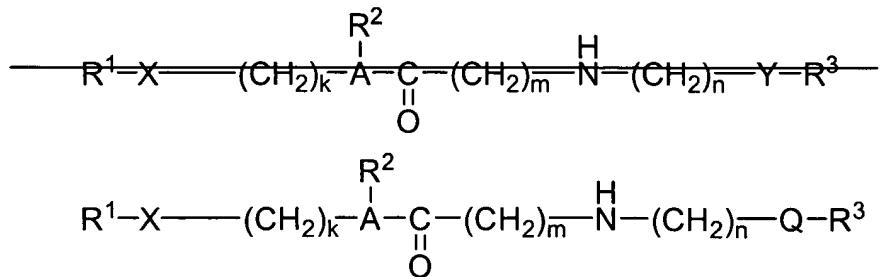
30. (withdrawn) A method for increasing the transport of a biologically active compound across a biological membrane comprising:

administering a composition comprising a biologically active compound and a transport moiety, wherein the transport compound comprises a structure selected from the group consisting of $(ZY_2)_nZ$, $(ZY)_nZ$, $(ZYY)_nZ$ and $(ZYYY)_nZ$, wherein Z is L-arginine or D-arginine, and wherein Y is an amino acid that does not comprise an amidino or guanidino moiety, and wherein n is an integer ranging from 2 to 10,

wherein transport of the biologically active compound across the biological membrane is increased relative to transport of the biologically active compound in the absence of said transport moiety.

31. (withdrawn; currently amended) The method according to claim 2030, wherein the biologically active compound is attached to the transport moiety by a linking moiety to form a conjugate.

32. (withdrawn; currently amended) The method of claim 2431, wherein the conjugate has the following structure:



wherein:

R^1 is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R^1 and R^3 ;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R^1 and R^3 ;

A is N or CH;

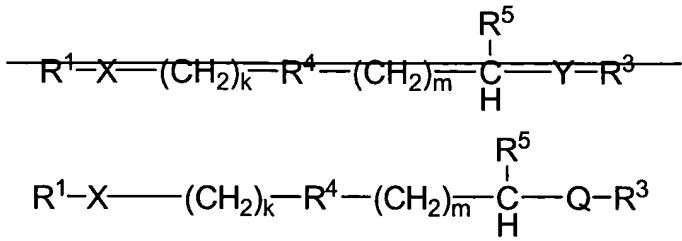
R^2 is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

R³ is a transport moiety;

k and m are independently either 1 or 2; and

n is an integer of from 1 to 10.

33. (withdrawn; currently amended) The method of claim 2431, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound ;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

R³ is a transport moiety;

R⁴ is S, O, NR⁶ or CR⁷R⁸;

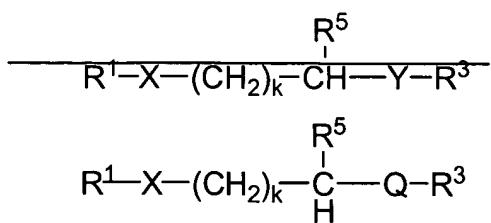
R⁵ is OH, SH or ~~NHR⁶, NHR⁶,~~ or -CONH₂;

R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

R⁷ and R⁸ are independently hydrogen, alkyl or arylalkyl; and

k and m are independently either 1 or 2.

34. (withdrawn; currently amended) The method of claim 2431, wherein the conjugate has the following structure:



wherein:

R¹ is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

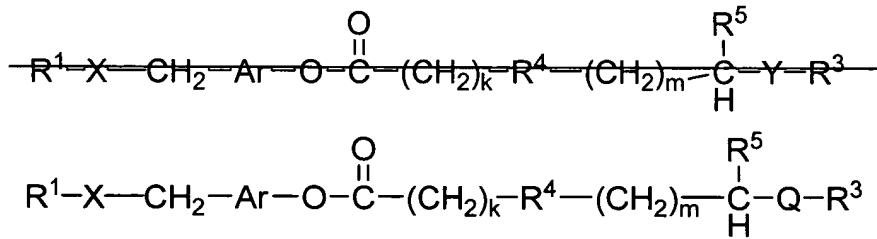
R³ is the transport moiety;

R⁵ is H, OH, SH or NHR⁶, NHR⁶, or -CONH₂;

R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl; and

k is 1 or 2.

35. (withdrawn; currently amended) The method of claim 2431, wherein the conjugate is of the following structure:



wherein:

R¹ is the biologically active compound;

X is a linkage between a functional group on the biologically active compound and a functional group on the linker between R¹ and R³;

YQ is a linkage between a functional group on the transport moiety and a functional group on the linker between R¹ and R³;

Ar is a substituted or unsubstituted aryl group, wherein the methylene and oxygen substituents are either *ortho* or *para* to one another;

R³ is the transport moiety;

R⁴ is S, O, NR⁶ or CR⁷R⁸;

R⁵ is H, OH, SH, CONHR⁶ or NHR⁶;

R⁶ is hydrogen, alkyl, aryl, arylalkyl, acyl or allyl;

R⁷ and R⁸ are independently hydrogen or alkyl; and,

k and m are independently either 1 or 2.